TIS TASK

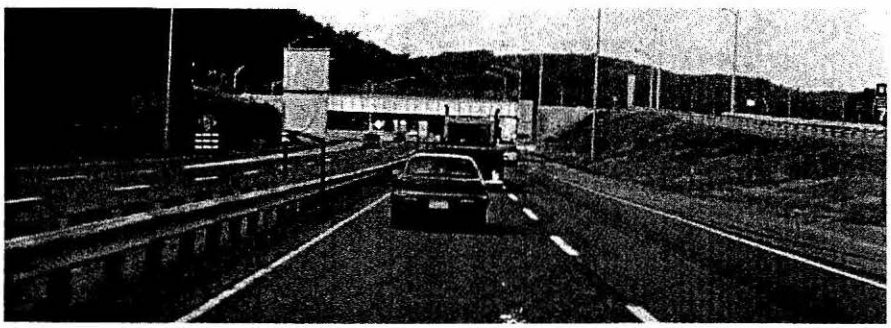
By: Chuck Gysi, N2DUP

Travelers Information Stations relay important data, commercials and VHF signals

A sign in a parking lot at the Herbert Hoover National Historic Site in West Branch, Iowa, advises motorists to tune to 690 AM for the city of West Branch's TIS transmitter. Photo by Chuck Gysi

Want some real DX? While some radio hobbyists try to tune in as many low-power stations as possible, there is no better DX than to try to tune in very-low-power AM stations that serve very small areas. These stations can range from flea power to a whopping 10 watts (that's full power for most) on the AM broadcast band. Travelers Information Stations (TIS) have been around for a while. Many motorists ignore the highway signs instructing them to tune in these stations for important information. However, they can be fun to tune in because their intended listening audience is a very small area and when their signals travel well outside these areas, the catch can be exciting for radio hobbyists and interesting for those who operate the stations. TIS operate on the standard AM broadcast band in the United States. Through the years, most of these stations have operated on 530 or 1610 kilohertz. The reason for that is these two frequencies were just below and above what once was the standard AM broadcast band. However, 530 kilohertz is a clear-channel frequency for Canadian broadcasters and 1610 kilohertz has become a part of the new expanded AM broadcast band (X band) from 1610 to 1700 kHz. While many TIS operate on 530 and 1610 kHz, you'll technically find them all over the broadcast band on available frequencies that won't cause interference to other full-power broadcasters. For instance, the TIS operated by the city of West Branch, Iowa, home of the Herbert Hoover Presidential Library and Museum, operates on 690 kHz.

TIS Tasks Typically, TIS can serve a variety of functions, primarily for motorists. These stations attempt to cover a chunk of an interstate highway, usually a mile or two in length (enough time for a one- or two-minute broadcast to be heard). Road construction is one use for TIS. When road construction is imminent, sometimes states or local governments will set up a TIS to advise motorists who regularly travel a given route that construction is about to begin and that they should seek alternate routes, be prepared for congestion or seek out ride-sharing programs. For impending construction, these TIS will broadcast information to better prepare motorists for the coming construction. The idea here is to alleviate any problems with the road construction. This makes the actual construction project run a little smoother and perhaps with a little less delay in daily traffic. When construction actually takes place, the TIS will advise motorists of the work in progress and signs typically will be posted before interchanges to allow motorists the option of not entering the highway under repair. In these instances, the TIS will broadcast detour information so motorists can avoid the construction zone. Sometimes these TIS applications are paired with enhanced radar advisories. Persons with newer radar detectors usually have access to a system that will alert them of roadway hazards such as road construction, motor vehicle accidents and emer-



Driving down the highway, you may want to go ahead and tune in those TIS transmitters when you see the signs alongside the highway. TIS may keep you out of construction zones and other traffic bottlenecks. And they're fun to DX, too.

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gency vehicles on the roadway. The TIS will broadcast road advisories while the radar transmitter system will send out encoded messages to motorists, too. Usually you find the TIS and the radar transmitter at the same site. To allow rapid updates to roadway information being broadcast over TIS sites, most these days (especially the portable ones) are equipped with cellular telephone receivers connected to the TIS transmitter. Transportation officials and police have the capability of dialing the TIS and recording updated traffic information to be broadcast to motorists. This makes TIS transmitters extremely valuable in the movement of traffic. Motor vehicle accidents can really slow down traffic on congested highways, especially during rush hours. In these instances, updated information can be broadcast on TIS units so that motorists know why they are sitting in traffic, or have an opportunity to detour around the affected area. In areas that attract tourists, TIS transmitters serve visitors with information and also serve double duty in an effort to attract even more visitors. Stations set up to broadcast information for tourist areas might include dates of major events, a list of major attractions and phone numbers for additional information. In addition, persons traveling along a major highway may tune in the station out of curiosity and find that the region offers an attraction they are interested in and stop, even though the visit was unplanned. So, you can see these TIS also are somewhat commercial in nature in that they promote tourism. Keep in mind that some of these TIS are seasonal in nature, and if it isn't tourism season (like in the winter), then the TIS may not be transmitting, or it may contain minimal information. In some large parking lots, you also may find TIS operating. These TIS applications may direct motorists to open parking areas, especially when some parking areas become full. They also may direct visitors to alternate modes of transportation, especially within parks. Airports also frequently have TIS transmitters. These stations can serve a host of purposes. Some airports may have more than one TIS, too, so multiple purposes can be served. For instance, one TIS transmitter may advise airport visitors where they can park, while others may advise of incoming and departing flights. One interesting application of TIS is at highway rest areas where these transmitters rebroadcast NOAA weather broadcasts from 162-MHz frequencies onto the TIS transmitter. Usually you won't know about these transmitters unless you stop at a given rest area offering such service, because highway signs don't advertise such service. This allows motorists stopping at public rest areas to get up-to-date weather information many of us like to monitor on VHF high band.

Travelers Information Service radio stations can advise motorists of highway work and construction activity - before they pass through a construction zone. Photo by Chuck Gysi

Find a TIS Where should you look for TIS transmitters? Check 530 and 1610 kHz for many of these broadcasts. But they aren't limited to these two frequencies. They can operate anywhere on the AM broadcast band from 530-1710 kHz, including the new recently expanded AM band (X band) from 1610-1710 kHz). For instance, there are a series of TIS along the Pennsylvania Turnpike in the Philadelphia suburbs that operate on 1630 kHz. When the turnpike TIS aren't transmitting road construction or accident reports, they retransmit the NOAA weather station on 162.475 MHz in Philadelphia. So, for those without NOAA weather radios or scanners, they can tune their AM radios for current weather broadcasts. TIS usually are licensed to city, municipal, county or state governments. These include road authorities for toll roads and transportation departments. They come under the local government radio service and have call signs much like two-way users, such as WNZL582. While these stations are in the Federal Commu-

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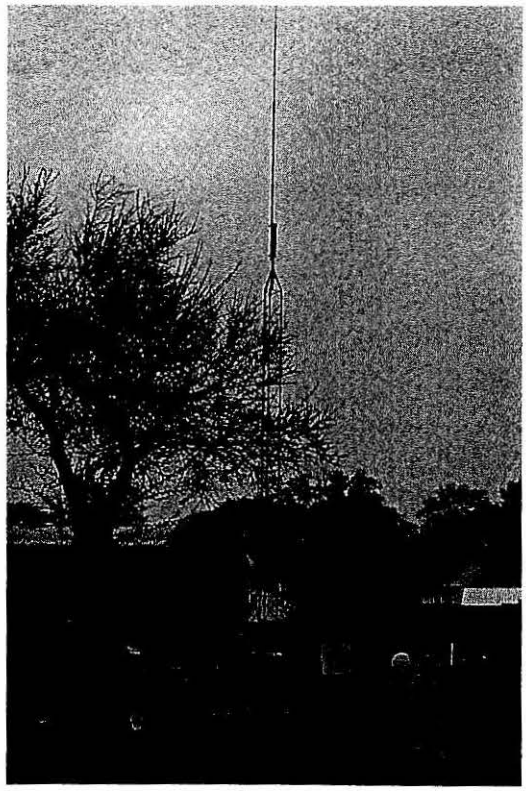
nications Commission's data base of licensees (you can look them up on the Web at www.fcc.gov), there are some TIS transmitters you won't find there. TIS transmitters operated by the federal government are not licensed by the FCC, but are authorized by a separate federal agency, the Interagency Radio Advisory Committee. IRAC maintains its own data base of TIS transmitters, but you'll do a lot better compiling your own list of federal TIS because IRAC files typically have been closed to the public since the Reagan administration. Federal TIS usually operate in national parks and other federal installations with outside visitors.

Flea-power AM While TIS transmitters operate at 10 watts, there are other applications for very low power AM transmitters that typically don't reach more than a city block in coverage. While TIS transmitters are licensed, there are AM transmitters that can operate at very low power without a license. Ever drive down the road and see a house for sale with a "Talking House" sign in front of it? The sign will instruct passersby to tune their car radio to a frequency such as 1620 kHz to hear information about the house for sale. The broadcast will tell the price, the number of bedrooms, features and more. Persons don't even have to leave their vehicle or call the Realtor to find out more about the house unless they really are interested. These transmitters have proven to be a great tool for real estate sales. Car dealers also have used these transmitters to promote sales, specials and to offer information about specific vehicles for sale. What a great tool these transmitters are (all commercial), especially for those Sunday evening car shoppers browsing car lots. Sometimes these flea-power transmitters will promote special events such as fairs or festivals or specials sales. If the sign tells you to tune in a certain frequency, you might just want to do so. There may even be an on-air special deal broadcast that you wouldn't know about unless you tuned in. And you know why that special deal is being broadcast? It's so those using these transmitters can gauge their effectiveness. One interesting application for low-power transmitters has come in the form of talking billboards. A highway billboard sign will instruct motorists to tune in a certain frequency for additional information about the product or service being advertised on the billboard. The broadcast may contain a special deal, too. In some sporting arenas now, there are low-power transmitters that relay actual broadcasts of the game in progress. Because many fans carry headset radios to these events and regular AM stations may not come in clearly inside these large arenas, fans can tune their headsets to these low-power transmitters and hear the game in progress clearly because the transmitter is inside the arena.

Other stations There still are other applications for very-low-power transmitters. Some neighborhood-based radio stations serve a very limited listening audience, but can offer timely and needed information for residents of that locale. You'll find these few and far between, but there are a few around. Consider finding one of these a great catch! Some colleges, universities and high schools operate carrier current stations on the AM broadcast band. While these stations depend on the electrical wiring on campus to carry their AM signal, you'll be able to tune them in if you are on or very close to a campus. Some may have a wide listenership on campus, especially if they offer alternative music. Drive-in theaters, a dying breed, frequently offer wireless audio for the movies they show. Instead of putting those ugly boxes inside your car window to hear the movie being shown, theaters will broadcast the movie audio over an AM or FM frequency so you can tune them in on your better-sounding car radio. If you are in the vicinity of a drive-in theater, you'll be able to hear the audio for the movies.



Here's a glimpse of the TIS transmitter, tower and antenna on 690 kHz in West Branch, Iowa. It's located behind a National Park Service facility near the Herbert Hoover National Historic Site. The station IDs as: "This is West Branch Radio, WNZL582, 690 AM."
Photo by Chuck Gysi

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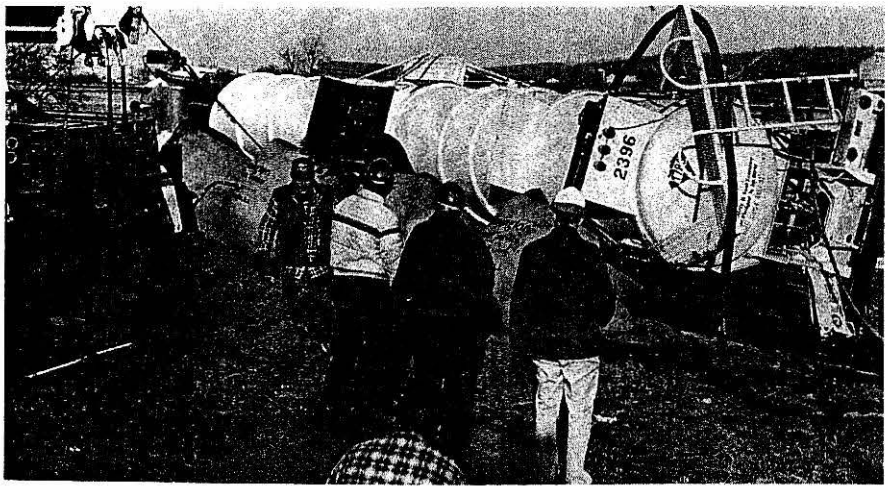

Many newer Travelers Information Stations along major roads can broadcast immediate information in the event of traffic accidents that clog or slow down motorists. Photo by Chuck Gysi

Likewise, some drive-in churches, where you park and pray, also offer their services over a very-low-power AM or FM transmitter so those attending can hear the services within the comfortable confines of their car. And if you really want to find a very interesting application for very low power radio, try tuning in a bug! Surveillance transmitters use the FM broadcast band all the time. Why? Those planting the bugs can sit in a parked vehicle nearby and tune them in on a car radio without any special radio equipment. It's simple and easy and works quite well in surveillance applications.

TV and CB Don't stop tuning around the AM or FM bands for low-power or flea-power users. You might find the same on TV or CB. At one time, a transmitter was manufactured to relay your VCR to other TVs in your home over UHF television frequencies. These so-called Genie units would rebroadcast your home video and audio over a TV channel you would select before purchasing your unit, such as Channels 14 through 20. The FCC stepped in at one point and determined that these transmitters were illegal, but not before many were sold. You still may find a neighbor with one of these relaying their cable TV or satellite signals to other TVs in their home. You might be surprised at what your neighbors are watching, too! Newer versions of these units have been type-accepted by the FCC for use on the 900-MHz band, so you may want to try tuning around there for these transmitters. In fact, a new generation of these transmitters are being made in the 2.4 GHz band. Don't be surprised to find store security cameras using 900 MHz and 2.4 GHz frequencies for wireless applications from remote areas to the main security desk. CB has been used in the past, too, for various purposes, both lawful and unlawful. Sometimes an annoying endless loop tape will be connected to a CB transmitter to relay information when it is known a lot of CBers will be in an area. You may find these at truckers events or those catering to CBers. In any event, there are plenty of low-power and very-low-power transmitters out there on AM, FM and other broadcast bands, too. If you tune around, you'll find these transmitters and have fun. Those TIS transmitters can reach far at night if you tune around and listening to a TIS more than a hundred miles away is more exciting than hearing a 50,000-watt powerhouse from a few states away.

QSL THAT TIS

How to obtain QSLs for TIS stations

By CHUCK GYSI, N2DUP

Want to prove you received a TIS transmitter? How about getting a QSL card or letter?

It's easy to receive confirmation of reception of a TIS if you know how. First, you'll want to include detailed information about the broadcast you received. If you heard an endless loop broadcast, try to jot down as many details as possible. Was a call sign given? Include it, as well as the frequency the broadcast was heard on.

Next, you'll need to come up with an address to submit your reception report to. Typically, if you check the FCC's web site (www.fcc.gov), you can look up the call sign of the transmitter heard and the FCC's data base will include the mailing address for the license, as well as sometimes the name of a person with the agency. In the case of a small city, the city manager's name may be on the license. In a larger city, the name of a communications supervisor may be on the license for the mailing address. It won't hurt to direct your correspondence to this person, asking them to forward to another appropriate person if necessary.

You might do better if you prepare your own QSL card for the agency to sign. Include the pertinent information you want included on your report, such as time, date, frequency, broadcast details, station call sign, city of transmitter, and any additional information you would like. Leave a blank line for a designated official to sign and date with their job title and you've got an instant QSL. Especially in the case with local and state governments, include return postage. Cities aren't in the business to acknowledge radio listeners' reports, so make the TIS task easy on them.

If you are very interested in scanning TIS transmitters, check the web for various hobbyists sites, and subscribe to the amfmtvdx@qth.net listserv. Many broadcast band DXers on this e-mail listserv post information about TIS broadcasts as well as DX reports.